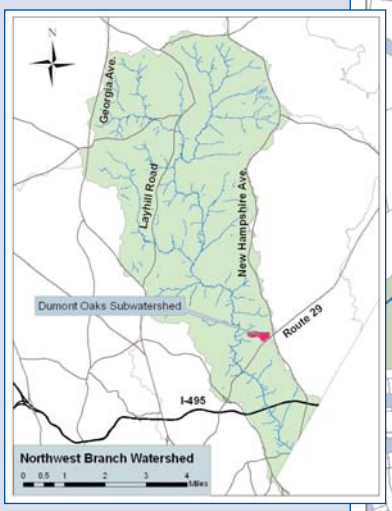
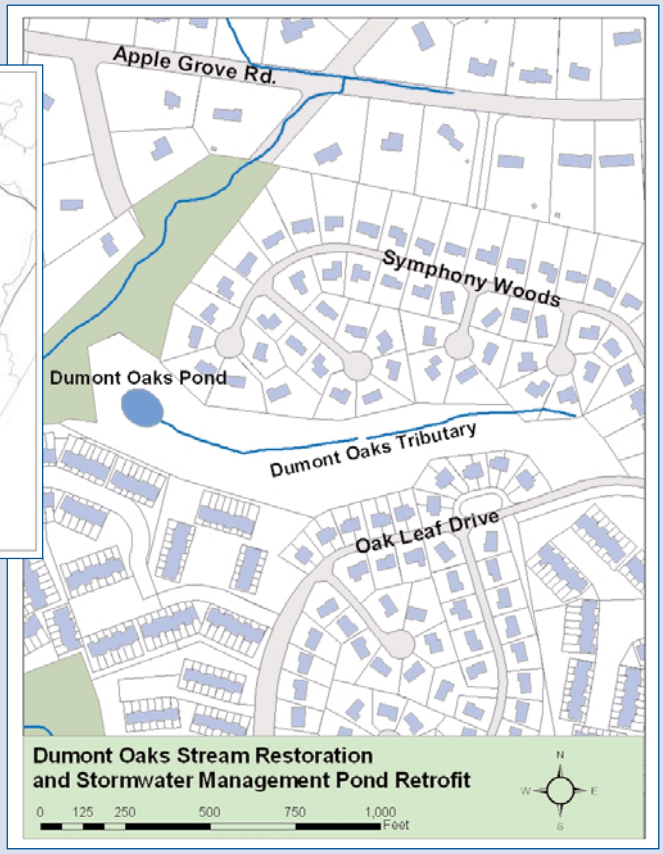
Watershed Restoration FACTSHEET:

Dumont Oaks Stream Restoration and Stormwater Pond Retrofit



The Northwest Branch Watershed in Montgomery County has a drainage area of 31 square miles and contains 87 miles of stream.



Dumont Oaks Project Facts:
Project Drainage Area: 69 acres
Project Imperviousness: 30%
Property Ownership: Private

Restoration Goals:
To improve water quality and quantity controls of the Dumont Oaks Stormwater Management Pond. To address severely degraded conditions along the Dumont Oaks tributary through stream channel restoration,and stabilization, and aquatic habitat enhancement.

Stream Restoration Project Facts
Project Length:1,800 Feet
Construction Costs:
Stormwater Pond Retrofit and Stream Restoration ($577,300)
Reforestation ($4,000)
Funded in part through the Maryland Department of the Environment.
Project Status: Construction completed Spring 2004

Stream Monitoring Facts:
Pre and Post Restoration Monitoring following DEP Monitoring Protocols

For complete technical and professional specifications, (coming soon) visit www.askdep.com

Watershed Restoration in Northwest Branch

The *Anacostia Watershed Agreement* of 1987 committed local and state agencies to restore aquatic habitat and water quality in tributaries to the Anacostia River that were seriously degraded by uncontrolled stormwater runoff from prior urbanization. The Northwest Branch Watershed in Montgomery County is one of four major watersheds draining to the Anacostia River.

In 2000, as part of a continuing comittment to the Anacostia Watershed agreement, the Montgomery County Deaprtment of Environmental Protection (DEP) and the U.S.Army Corps of Engineers completed a feasibility study of the Northwest Branch Watershed in the County. The study identified and prioritzed 175 projects to improve stormwater runoff management and restore degraded stream habitat in critical reaches. The Dumont Oaks Project emerged form this study as a high priority project.

More information on the Anacostia Watershed Agreement and watershed restoration efforts in the Northwest Branch Watershed can be found at **askdep.com** or by contacting DEP-WMD at 240.777.7713.

Pre-Restoration Conditions

Much of the lower Northwest Branch Watershed, including the Dumont Oaks subwatershed, was developed prior to regulations requiring stormwater management control, and contains a high percentage of impervious surface. Uncontrolled stormwater runoff from highly impervious areas creates erosive, high velocity or "flashy" flows that cause damage to reciving streams.

Over time, the stream channel down-cut and became entrenched and eroded, undercutting trees and causing damage to private property. Headcuts formed and migrated

upstream. Habitat features required for healthy benthic g populations were limited, and silt accumulating in the Dumont Oaks stormwater management pond from upstream erosion required frequent dredging and maintenance.

Restoration Actions

The Dumont Oaks Project used construction restoration techniques to help stabilize stream banks and enhance riparian habitat.

Newly built instream structures included rock and log vanes g which direct water away from unstable stream banks and form downgrade scour pools, providing good habitat for fish. Rock cross vanes g also function as grade controls, which slow the erosive process of stream downcutting.

Stream banks were stabilized by installing rock or coir fiber logs g at the toe of the stream bank slope. The slopes were then graded back to create terraces, where native plants were added to increase soil stability. Bio-engineering methods such as brush layering g and live staking g were also used to add vegetative stabilization above the coir logs. In some places, the stream invert, or lowest channel point, was raised to allow the previously entrenched stream acces to the flood plain, which allows stormwater flow energy to dissipate.

Damaged storm drain outfalls were repaired, and step pools g were constructed that allow stormwater to lose erosive energy . Vernal pools were created to catch overland flow and stormwater. The vernal pools quickly established balanced aquatic communities, which added additional habitat benefits, including natural mosqito control.

The Dumont Oaks Stormwater Pond was dredged to original volume, and its riser was modified to improve stormwater control, adding further benefits to its receiving stream.

Pre-restoration conditions: severely downcut, entrenched and eroded stream channel

Completed stream restoration, Spring 2004

Restoration techniques included brush layering, live stakes and coir fiber toe protection

A step pool, constructed at a stormdrain outfall, allows erosive stormwater energy to dissappate, while rocks also function as "riffle" grade control.

follow web link for more information g see online glossary **www.askdep.com/watershed_glossary.htm**

For more information:

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